



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D119-796-241
Job Sheet 180154



Part No: D119-796-241

Job Qty: 1 ea

Part Name: Aft Crosstube Installation Without Step (No Hardware)



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/29/18

Job Tracking No:

Due Date: 8/6/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: D119-796-241 REV.J IPP REV:A 14.09.03 NEW ISSUE DD VERF:JLM IPP REV:B 14.10.15 AS PER REV.B
DD VERF:JLM IPP REV:C 14.11.19 AS PER REV.C DD VERF:JLM IPP REV:D 14.12.12 AS PER REV.pd1
DD VERF:JLM IPP REV:E 15.02.11 AS PER REV F JLM VERIFIED BY:DD IPP REV:F 17.05.08 AS PER IIN
REV.F DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	8/6/18	8/6/18	0.00	0.00	Start Up Crosstubes-1		GP 18-07-16
120	Packaging	1 pcs	8/6/18	8/6/18	0.00	0.00	Packaging1-1		GP 18-07-16
130	CNC Bend Crosstubes	1 pcs	8/6/18	8/6/18	4.67	4.17	CNC Bend Crosstube		GP 18-07-16
140	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC15		GP 18-07-16
145	Crosstubes	1 pcs	8/6/18	8/6/18	0.00	3.30	Crosstubes-1		GP 18-07-16
150	Crosstubes	1 pcs	8/6/18	8/6/18	0.00	3.30	Crosstubes-1		DPZ
160	HandFXtube	1 pcs	8/6/18	8/6/18	0.00	1.28	HandFinish5		DPZ
170	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC7-1		38 DAS 9-89
175	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC5		38 9-89
180	Outsource	1 pcs	8/6/18	8/6/18			SKY002-VC	2	4 2018
190	Packaging	1 pcs	8/6/18	8/6/18	0.00	0.00	Packaging2		AUG 14 2018
200	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC5		38 9-89
230	SprayPaint	1 pcs	8/6/18	8/6/18	0.00	1.31	Spray Paint		AS SEP 23 2018
240	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC14		AS OCT 03 2018
242	Crosstubes	1 pcs	8/6/18	8/6/18	0.00	3.30	Crosstubes-1		AS OCT 03 2018
244	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC5		AS OCT 03 2018
246	SprayPaint	1 pcs	8/6/18	8/6/18	0.00	1.31	Spray Paint		AS OCT 03 2018
248	SprayPaint	1 pcs	8/6/18	8/6/18	0.00	1.31	Spray Paint		AS OCT 03 2018
250	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC14		AS OCT 03 2018
252	Crosstubes	1 pcs	8/6/18	8/6/18	0.00	3.30	Crosstubes-1		AS OCT 03 2018
260	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC5		AS OCT 03 2018
270	Packaging	1 pcs	8/6/18	8/6/18	0.00	0.00	Packaging1-1		AS OCT 03 2018
280	QC	1 pcs	8/6/18	8/6/18	0.00	0.00	QC4		69
290	Packaging	1 pcs	8/6/18	8/6/18	0.00	0.00	Packaging3-1	LG050	AS OCT 03 2018
295	DC	1 pcs	8/6/18	8/6/18	0.00	0.00	DC		N/R
300	QC21-FG	1 Ea	8/6/18	8/6/18	0.00	0.00	QC21		DAS 21 9-89

Part Op 130 - Bend tube as per Dwg D119-796-241 using CNC bender program
Descriptions: 145 - 1- CUT TUBE AT HEIGHT ON FAI SHEET
150 - ***** ENSURE PROPER JIG POSITIONING *****
160 - ***IMMEDIATELY AFTER GRINDING***
180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***
190 - Ensure copy of NDT results attached to work order. P0040713

AUG 17 2018

AUG 14 2018

Plex 6/29/18 9:41 AM Dart.lajeunesse.marie

Part: D119-796-241
Job No: 180154
Serial No/Batch: S090719

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART
AEROSPACE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

200 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D119-796-241

230 - ***VERIFY BY _____ BATCH # TO MATCH W/O Primer 138877

240 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

242 - Assemble as per dwg D119-796-241 and QSI 2- Install D5152-043 with proseal 890 on concave surface, 0.100" MIN thick as per dwg using DT10112 (identified right and left) 3- Install center support without bonbing. 4- Install Damper support and contact pads using proseal 890 per dwg and clamp in position. 5096394 exp 3/19

244 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

246 - ***VERIFY BY _____ BATCH # TO MATCH W/O Primer 138877 clear 138832

248 - ***VERIFY BY _____ BATCH # TO MATCH W/O Paint 138949

250 - ***VERIFY BY _____ BATCH # TO MATCH W/O _____

252 - 1- Re-install non fixed hardware per dwg ***Torque clamps on damper and contact pad to 80-100 IN-LBS.*** 2- Apply a filet-seal of proseal 890 around damper supports and contact pads.

260 - ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED AS PER DWG.*** 1- ATTACH A RED TAG TO CENTER SUPPORT THAT READS CENTER SUPPORT NOT FIXED THEN DATE AND STAMP IT.

290 - Identify and pack for shipping as per PPP D119-796-241

295 - Photocopy bluefile and create labels as per PPP D119-796-241 chg 005

On w/o 176941

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D119-796-241TRN	Crosstube Turning Detail	1 Ea (1 ea)	90-Start up Operation	
CR3212-4-07	Cherry Rivet	16 Ea (16 ea)	230-SprayPaint	
D2873-043	Nut Plate Assembly	4 Ea (4 ea)	230-SprayPaint	
D5122-1	Center Support, Upper	1 Ea (1 ea)	242-Crosstubes	
D5123-1	Clamp Cushion	6 Ea (6 ea)	242-Crosstubes	
D5123-5	Clamp Cushion	2 Ea (2 ea)	242-Crosstubes	
D5134-041	Damper Support Assembly, LH	1 Ea (1 ea)	242-Crosstubes	
D5134-042	Damper Support Assembly, RH	1 Ea (1 ea)	242-Crosstubes	
D5136-1	Contact Pad, LH	1 Ea (1 ea)	242-Crosstubes	
D5136-2	Contact Pad, RH	1 Ea (1 ea)	242-Crosstubes	
D5152-043	Aft Post Mount Assembly	2 Ea (2 ea)	242-Crosstubes	
MS21920-25	Clamp	6 Ea (6 ea)	242-Crosstubes	
MS21920-28	Clamp	2 Ea (2 ea)	252-Crosstubes	
D5515-1	Grounding Clamp	2 Ea (2 ea)	252-Crosstubes	
MS21042L3	Nut	2 Ea (2 ea)	252-Crosstubes	
MS27039-1-08	Screw	2 Ea (2 ea)	252-Crosstubes	
NAS1149D0332J	Washer	4 Ea (4 ea)	252-Crosstubes	
AN174-3A	Bolt	2 Ea (2 ea)	270-Packaging	
MS21042L4	Nut	2 Ea (2 ea)	270-Packaging	
NAS1149D0432J	Washer	4 Ea (4 ea)	270-Packaging	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D119-796-241TRN	1	1	0
230-SprayPaint	CR3212-4-07 <u>D138621(4)</u>	<u>16 5062615(4)16</u>	308	0
	D2873-043 <u>5089003</u>	<u>(4)</u>	15	0
242-Crosstubes	D5122-1 <u>5090238</u>	<u>(1)</u>	2	0
	D5123-1 <u>F160081</u>	<u>(6)</u>	217	0
	D5123-5 <u>F160081 163263</u>	<u>(2)</u>	202	0
	D5134-041 <u>5079482</u>	<u>(1)</u>	9	0
	D5134-042 <u>5107553</u>	<u>(1)</u>	7	0
	D5136-1 <u>5082473</u>	<u>(1)</u>	11	0
	D5136-2 <u>5063066</u>	<u>(1)</u>	23	0
	D5152-043 <u>5113598</u>	<u>(2)</u>	20	0
	MS21920-25 <u>5082848</u>	<u>(6)</u>	170	0
252-Crosstubes	D5515-1 <u>5058258</u>	<u>(2)</u>	28	0
	MS21042L3 <u>5094592</u>	<u>(2)</u>	1,209	0
	MS21920-28 <u>5083556</u>	<u>(2)</u>	41	0
	MS27039-1-08 <u>5067696</u>	<u>(2)</u>	371	0
	NAS1149D0332J <u>5100407</u>	<u>(4)</u>	1,549	0
270-Packaging	AN174-3A <u>5002776</u>	<u>(2)</u>	48	0
	MS21042L4 <u>5094597</u>	<u>(2)</u>	1,479	0
	NAS1149D0432J <u>5096756</u>	<u>(4)</u>	190	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
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DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

1	Crosstube Assembly (AW119 MKII Aft)	5.880Inches ± 0.030	5.910 5.850
2	Crosstube Assembly (AW119 MKII Aft)	2.516Inches $+ 0.005$ $- 0.000$	2.521 2.516
3	Crosstube Assembly (AW119 MKII Aft)	2.626Inches $+ 0.005$ $- 0.000$	2.631 2.626
4	Crosstube Assembly (AW119 MKII Aft)	2.627Inches $+ 0.005$ $- 0.000$	2.632 2.627
5	Crosstube Assembly (AW119 MKII Aft)	2.798Inches $+ 0.005$ $- 0.000$	2.803 2.798
6	Crosstube Assembly (AW119 MKII Aft)	2.799Inches $+ 0.005$ $- 0.000$	2.804 2.799
7	Crosstube Assembly (AW119 MKII Aft)	2.989Inches $+ 0.005$ $- 0.000$	2.994 2.989
8	Crosstube Assembly (AW119 MKII Aft)	3.191Inches $+ 0.005$ $- 0.000$	3.196 3.191
9	Crosstube Assembly (AW119 MKII Aft)	3.200Inches $+ 0.005$ $- 0.000$	3.205 3.200
10	Crosstube Assembly (AW119 MKII Aft)	5.880Inches ± 0.030	5.910 5.850
11	Crosstube Assembly (AW119 MKII Aft)	2.516Inches $+ 0.005$ $- 0.000$	2.521 2.516
12	Crosstube Assembly (AW119 MKII Aft)	2.626Inches $+ 0.005$ $- 0.000$	2.631 2.626
13	Crosstube Assembly (AW119 MKII Aft)	2.627Inches $+ 0.005$ $- 0.000$	2.632 2.627
14	Crosstube Assembly (AW119 MKII Aft)	2.798Inches $+ 0.005$ $- 0.000$	2.803 2.798
15	Crosstube Assembly (AW119 MKII Aft)	2.799Inches $+ 0.005$ $- 0.000$	2.804 2.799
16	Crosstube Assembly (AW119 MKII Aft)	2.989Inches $+ 0.005$ $- 0.000$	2.994 2.989
17	Crosstube Assembly (AW119 MKII Aft)	3.191Inches $+ 0.005$ $- 0.000$	3.196 3.191
18	Crosstube Assembly (AW119 MKII Aft)	3.200Inches $+ 0.005$ $- 0.000$	3.205 3.200
19	Crosstube Assembly (AW119 MKII Aft)	105.710Inches ± 0.020	105.730 105.690

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DART
AEROSPACE

Container No: S090719

Part: D119-796-241

Job No: 180154

Serial No/Batch: S090719

Revision: J

Inspector:

Exp Date:

Instructions:

Uart Aerospace Ltd.
1270 Aberdeen Street
Markham, ON R3A 1K7
CANADA
TEL: 1 813 632-6200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 07/11/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

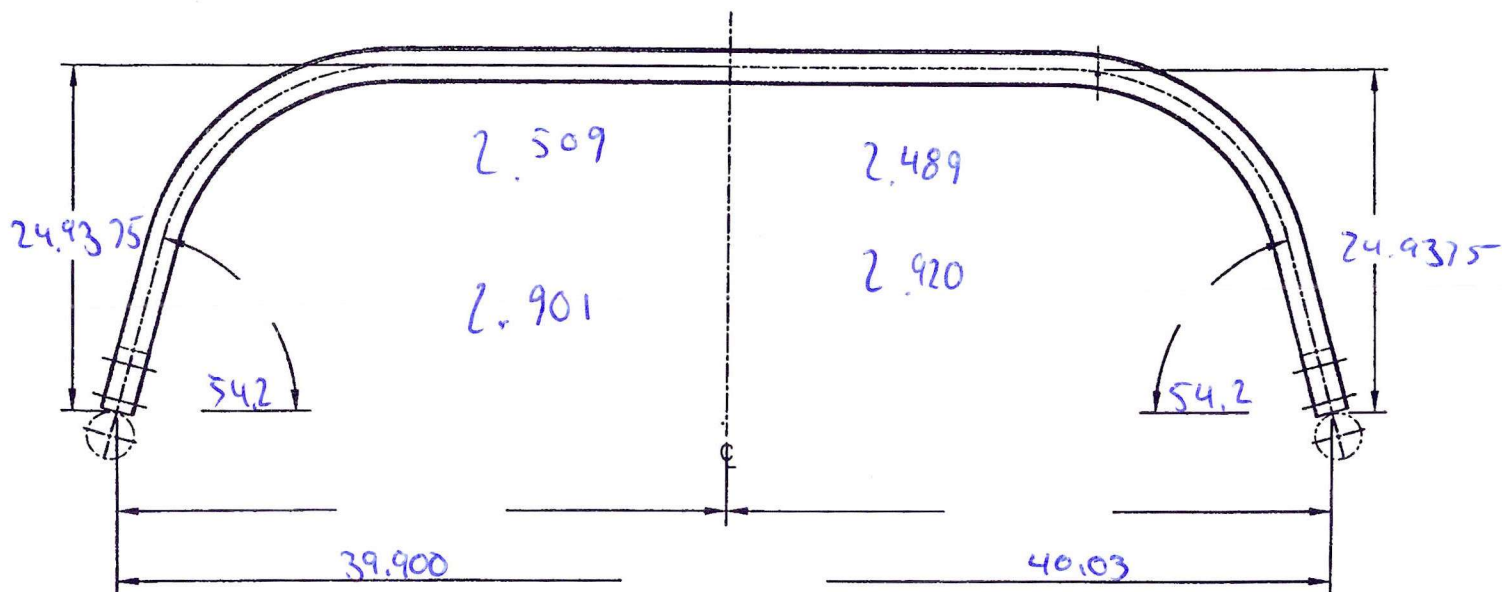
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DART AEROSPACE LTD		Work Order: 180154
Description: Crosstube Aft, with Step		Part Number: D119-796-241
Inspection Dwg: D119-796-241 Rev: J		Page 1 of 1

Required Dimension	Min	Max
Height	24.840	25.100
1/2 Span	39.810	40.070
Angle	54°	57°
Total Span	79.620	80.140
Bending Passes	8	--
Crushing	--	8.5%



	Side A	Side B
Bending Passes	12	12
Crushing	7.2%	8%
Comments		

QC15 Inspection	EB
Date	18-07-12

Rev	Date	Change	Revised by	Approved
A	15.04.14	New Issue	KJ	
B	15.11.12	Min angle revised	KJ	
C	15.12.15	Dwg Rev updated	KJ	
D	17.07.12	Dwg Rev updated	KJ	

DQA: _____ Date: _____



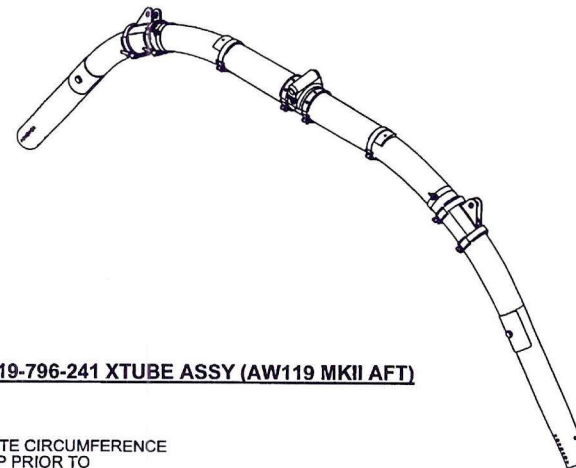
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 180154 HCS
180629



D119-796-241 XTUBE ASSY (AW119 MKII AFT)

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: MASK D5134-041/-042 DAMPER SUPPORT ASSEMBLIES, CUFFS, D5136-1/-2 CONTACT PADS, THE COMPLETE CIRCUMFERENCE OF THE TUBE UNDER THE D5122-1 CENTER SUPPORT AND THE TAB ON THE D5515-1 GROUNDING CLAMP PRIOR TO APPLICATION OF CLEAR COAT/PAINT.
IF NECESSARY TOUCH UP PRIMER ON OUTSIDE OF CROSSTUBE PER DART QSI 005 4.2.
APPLY MATTE CLEAR COAT TO THE UNDERSIDE OF CROSSTUBE AS SHOWN (B4-2, HATCHED AREA) PER QSI 005 4.2.
MASK THE UNDERSIDE OF CROSSTUBE AS SHOWN (B4-2, HATCHED AREA).
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY USING PART NUMBER "D119-796-241" AND BATCH NUMBER ON INSIDE OF CUFF PER QSI 044 6.4
- 7) WEIGHT: 26.26 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE.
THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM DEFECTS SUCH AS SCRATCHES, NICKS OR DENTS. DEFECTS UP TO 0.005 MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 9) INSTALL D5122-1 CENTER SUPPORT HAND TIGHT ONLY. DO NOT TORQUE. INSTALL RED TAG TO INDICATE "D5122-1 CENTER SUPPORT MUST BE BONDED PER IIN-D119-796 PRIOR TO FLIGHT".
- 10) PRIOR TO FINISHING, ABRASE MATING SURFACES OF D5136-1/-2 AND SURFACE OF CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE D5136-1/-2 CONTACT PADS AND INSTALL AT AN 8.4" OFFSET FROM THE CROSSTUBE BENDING PLANE. INSTALL MS21920-25 CLAMPS AND D5123-5 CLAMP CUSHIONS WHILE WET. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.
- 11) TORQUE MS21920 CLAMPS 80 - 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY, THE NUT HAS NOT BOTTOMED-OUT AFTER TORQUING AND THE NUT IS FACING AFT.
- 12) PRIOR TO FINISHING, POSITION AND INSTALL D5134-041/-042 DAMPER SUPPORTS USING JIG DT10085. ABRASE MATING SURFACES OF THE D5134-041/-042 DAMPER SUPPORTS AND CROSSTUBE WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE DEGREASER. APPLY A 0.100" MIN THK LAYER OF PROSEAL 890 ON THE INSIDE CONCAVE SURFACE OF THE D5134-041/-042. INSTALL MS21920-25 CLAMPS AND D5123-1 CLAMP CUSHIONS WHILE WET. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS. ENSURE THAT THE MS21920 CLAMPS ARE POSITIONED AS SHOWN IN DETAIL C.
- 13) PRIOR TO FINISHING, ABRASE MATING SURFACES OF CROSSTUBE AND D5152-043 WITH SCOTCH BRITE 7447 RED AND REMOVE RESIDUE WITH DUPONT 4105S WASH 'N' WIPE DEGREASER. INSTALL D5152-043 WITH LAYER OF PROSEAL 890 ON INSIDE CONCAVE SURFACE, 0.100" MIN THK LOCATE D5152-043 USING TOOL DT10112.
- 14) INSTALL THE D5515-1 GROUNDING CLAMP AND ASSOCIATED HARDWARE PER DETAIL "C" PRIOR TO FINISHING. TORQUE THE MS21042-3 NUT 12-15 IN-LB. COMPLETELY SEAL THE EDGES OF THE CLAMP USING PROSEAL 890.
- 15) CARRY OUT A RESISTANCE CHECK BETWEEN THE D5515-1 GROUNDING CLAMP AND ANY UNPAINTED SECTION OF THE CROSSTUBE IN ACCORDANCE WITH AC43-13-1B CHAPTER 11. MAXIMUM RESISTANCE IS 3 MEGOHMS.

J	ADD NOTE 14 & 15 ON SHT 1, ADD PAINT/PRIMER MASKING LOCATIONS, REVISE NOTES ON SHT 1 & 4, REVISE BOM ON SHT 2 TO ADD GROUNDING CLAMP AND ASSOCIATED HARDWARE. REF PAR 17-580	ML	17.02.10
I	D6023-106 MATERIAL REPLACES D6009-106. D5136-1/-2 & D5134-041/-042 NOW INSTALLED ON PRIMER.	AP	15.10.13
H	NOTE 9 RE-WRITTEN. BONDING INSTRUCTIONS MOVED TO IIN. SEE PREVIOUS REV FOR DETAILS.	AP	15.07.02
G	FINISHING ORDER ADJUSTED. UPDATE BEND TOLERANCE AND TRN DETAIL TOLERANCE TO MATCH D119-796-141 DWG	AP	15.04.24
F	REMOVED PRIMER/PAINT ON CUFFS, 2.516 WAS 2.500 (C8-5)	AP	15.02.03
E	D5152-043 WAS D5150-3, SCOTCH BRITE 7447 RED WAS 180 GRIT SANDPAPER	DB	15.01.15
D	ADD D5150-3 STEP POST (2X). MOVED INSPECTION WINDOW DETAIL TO SHT 1, MODIFIED NOTES ON SH 1 & 3	DB	14.11.25
C	CR3212-4-07 RIVETS WAS CR3212-4-05 RIVETS. RADIUS BLOCK WAS NUT PLATE ASSEMBLY (BOM), REMOVED 7.5 DEG CUFF HOLE OFFSET (A1-3), REDUCED CUFF DIA TO 2.500 (C8-5), ADD INSPECTION WINDOW	AP	14.10.23
B	ORIENTATION OF D5122-1 CENTER SUPPORT WAS CORRECTED. D5123-5 ADDED UNDER D5136-1/-2 CONTACT PADS. ADDED D2873-043 NUT PLATE ASSY & CR3212-4-05 RIVETS. ADDED REFERENCE TO SKIDTUBES FOR LOCATING CUFF HOLES. RE-ORGANIZED NOTES, REMOVED REDUNDANT INFORMATION.	AP	14.09.08
A	NEW ISSUE	AP	14.08.07
REV.	DESCRIPTION	BY	DATE

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED	JMH	DRAWING NO.	REV. J
MFG. APPR.	DP	D119-796-241	SHEET 1 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
DATE	17.02.10	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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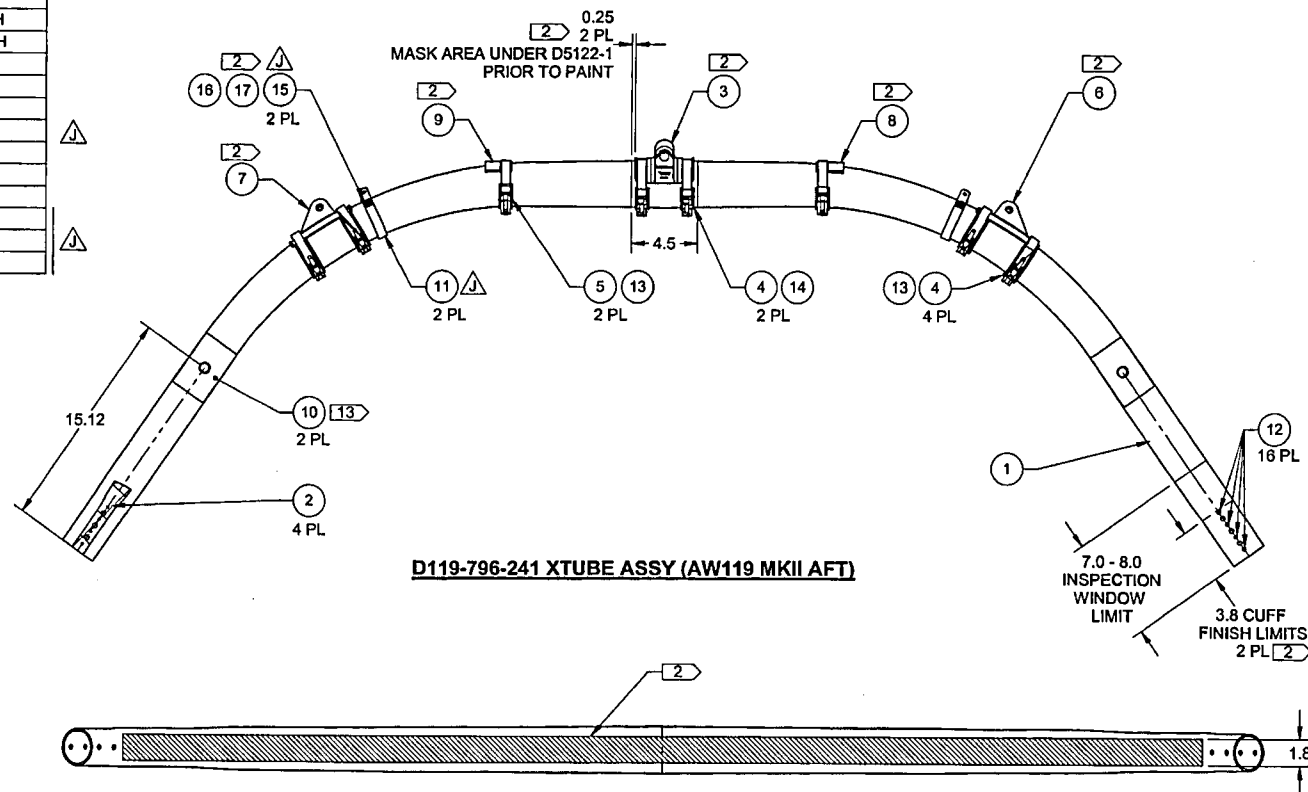
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

ITEM	QTY	P/N	DESCRIPTION
	X	D119-796-241	XTUBE ASSY (AW119 MKII AFT)
1	1	D119-796-241BND	CROSSTUBE, AFT
2	4	D2873-043	RADIUS BLOCK
3	1	D5122-1	CENTER SUPPORT
4	6	D5123-1	CLAMP CUSHION
5	2	D5123-5	CLAMP CUSHION
6	1	D5134-041	DAMPER SUPPORT ASSY, LH
7	1	D5134-042	DAMPER SUPPORT ASSY, RH
8	1	D5136-1	CONTACT PAD, LH
9	1	D5136-2	CONTACT PAD, RH
10	2	D5152-043	AFT POST MOUNT ASSY
11	2	D5515-1	GROUNDING CLAMP
12	16	CR3212-4-07	CSK RIVET, CHERRY MAX
13	6	MS21920-25	CLAMP
14	2	MS21920-28	CLAMP
15	2	MS27039-1-08	SCREW, PAN-HEAD
16	2	MS21042-3	NUT
17	4	NAS1149D0332J	WASHER



D119-796-241 XTUBE ASSY (AW119 MKII AFT)

RELEASED
2017-05-04

APPROVED

DESIGN	AP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED	JMH	DRAWING NO.	REV. J
MFG. APPR.	DP	D119-796-241	SHEET 2 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
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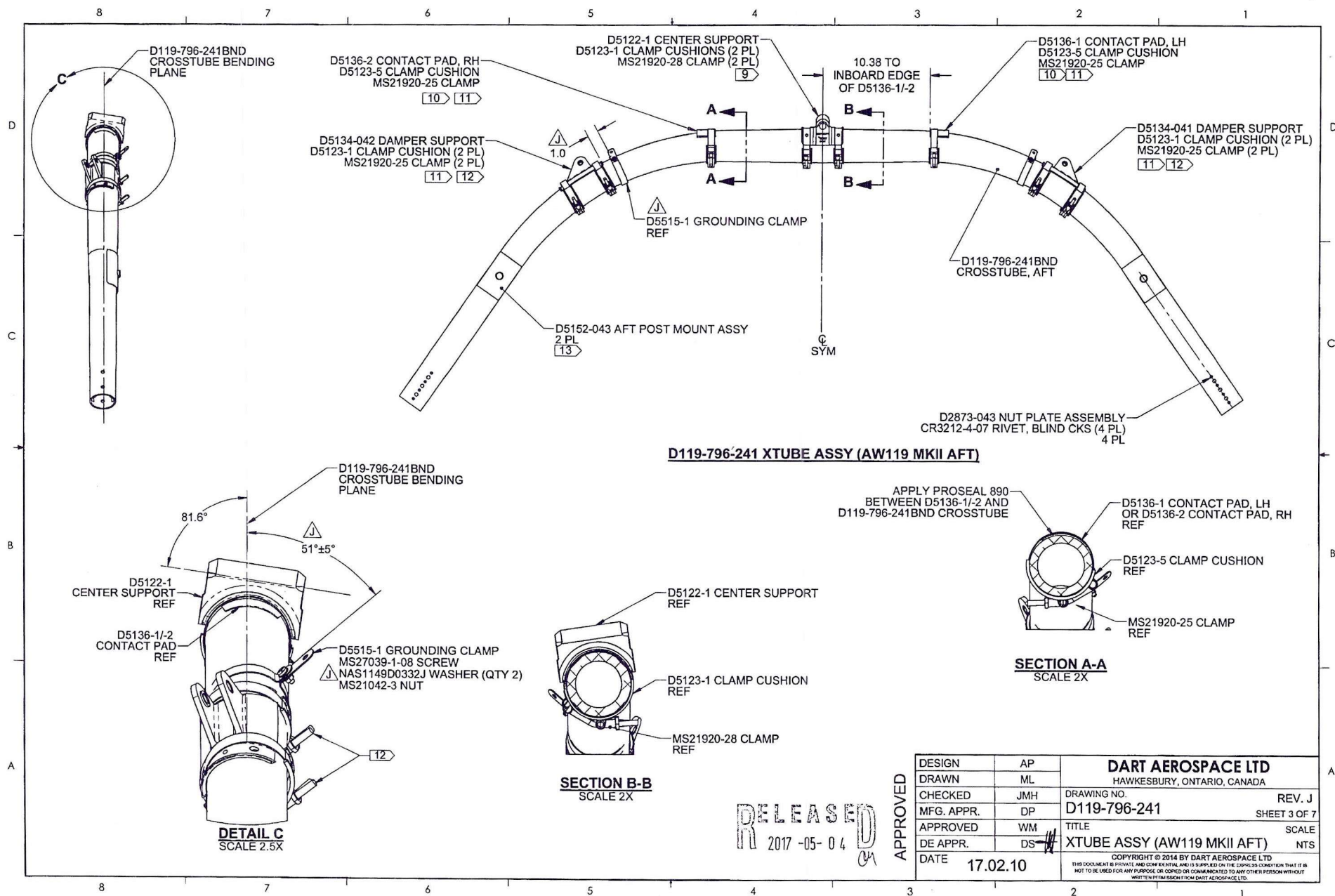
WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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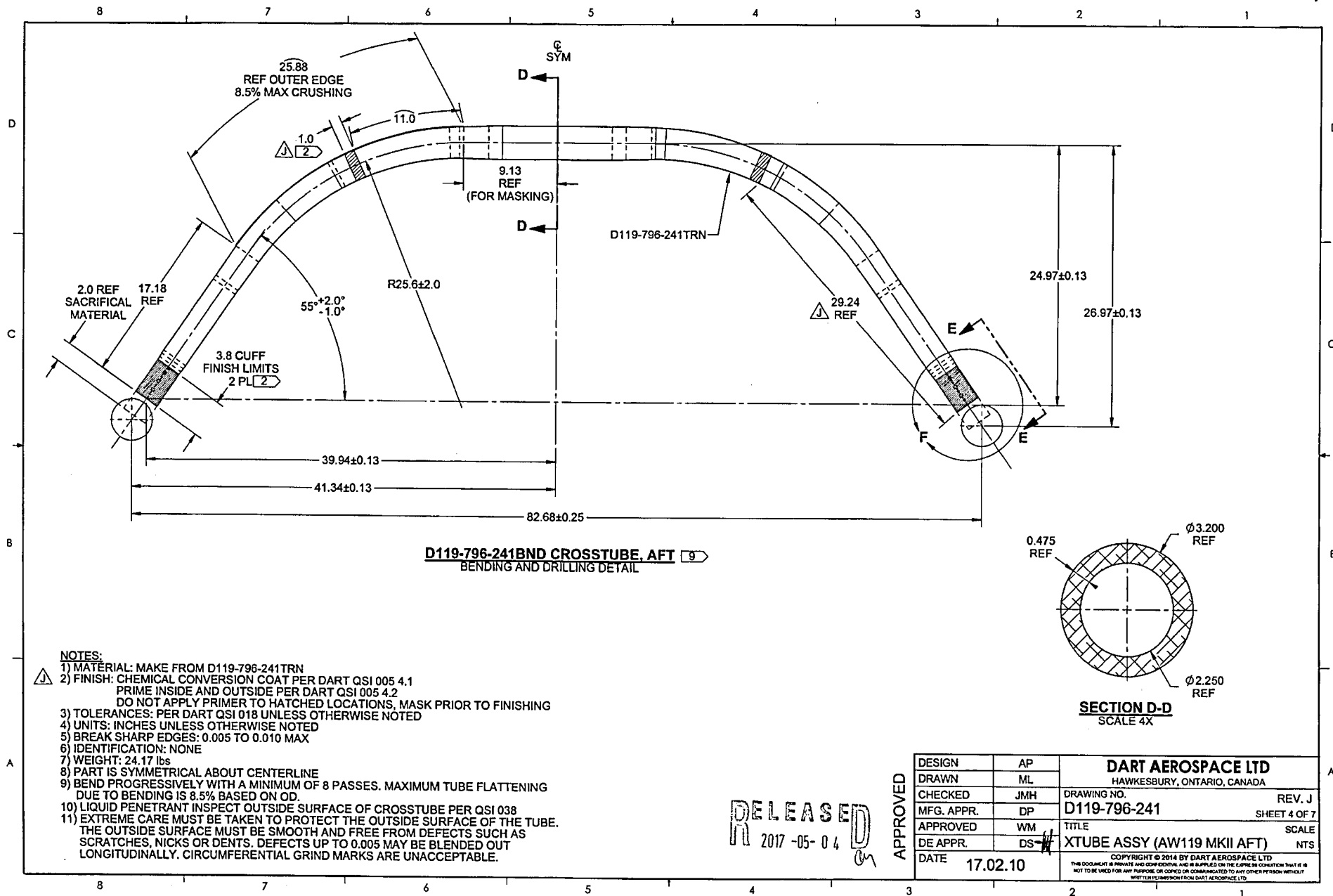


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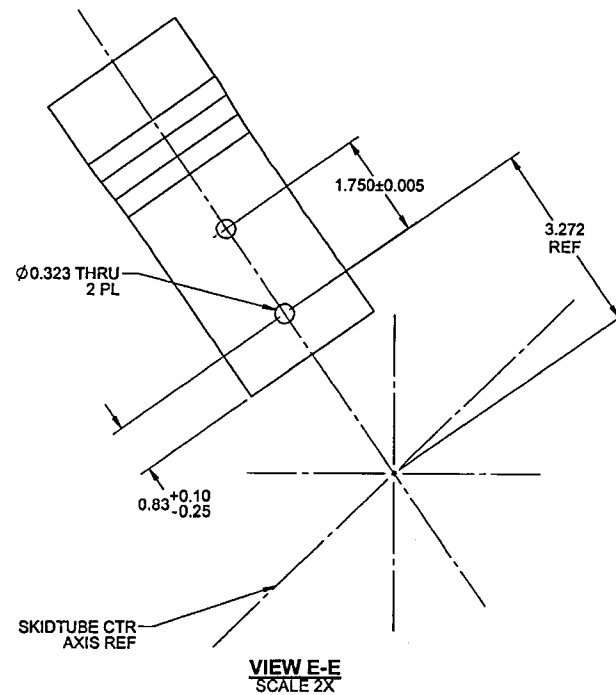


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DESIGN	AP	DART AEROSPACE USA, INC.	
DRAWN	ML	KENT, WA	
CHECKED	JMH	DRAWING NO.	REV. J
MFG. APPR.	DP	D119-796-241	SHEET 5 OF 7
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	XTUBE ASSY (AW119 MKII AFT)	NTS
DATE	17.02.10	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS LOANED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____

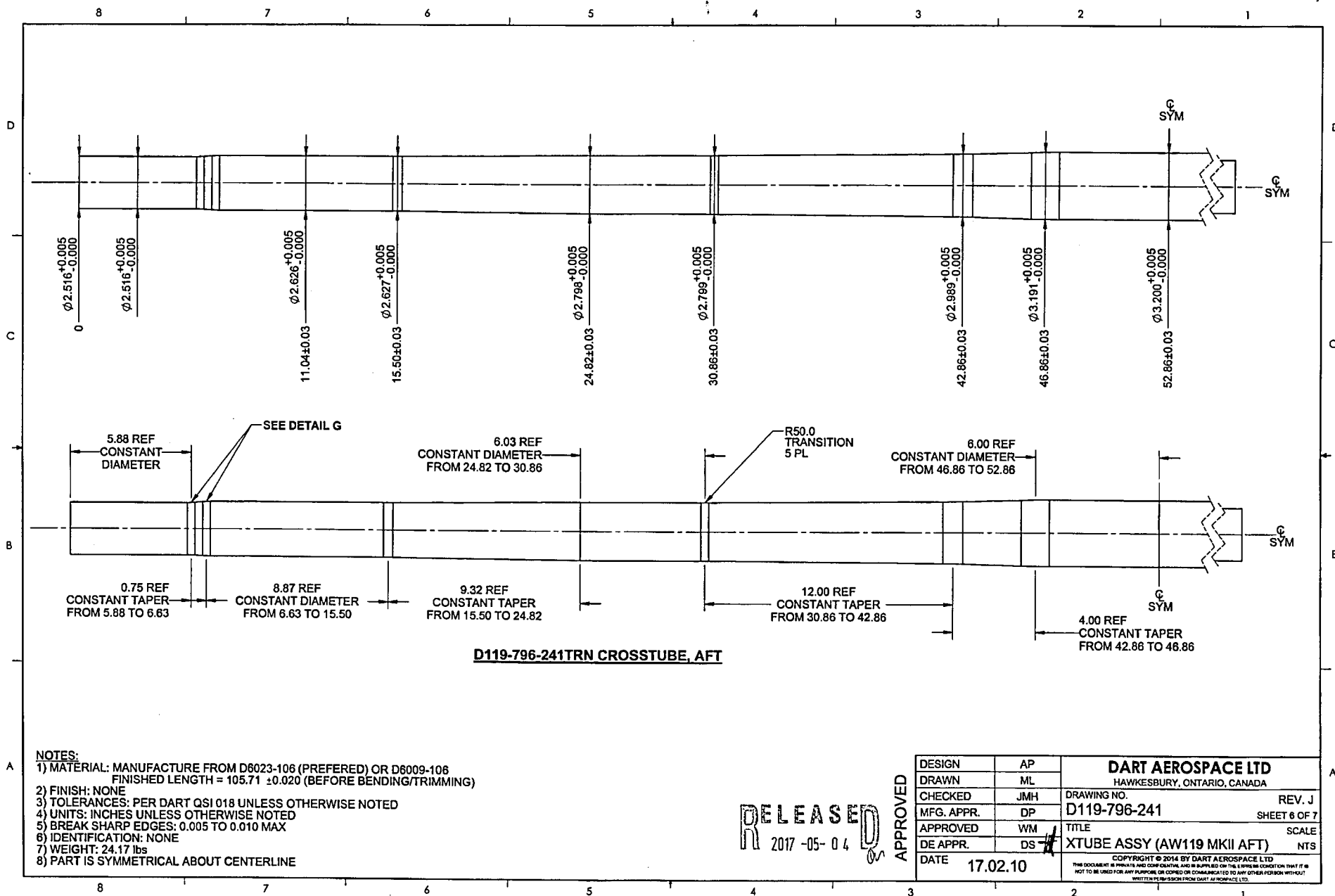


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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DQA: _____ Date: _____

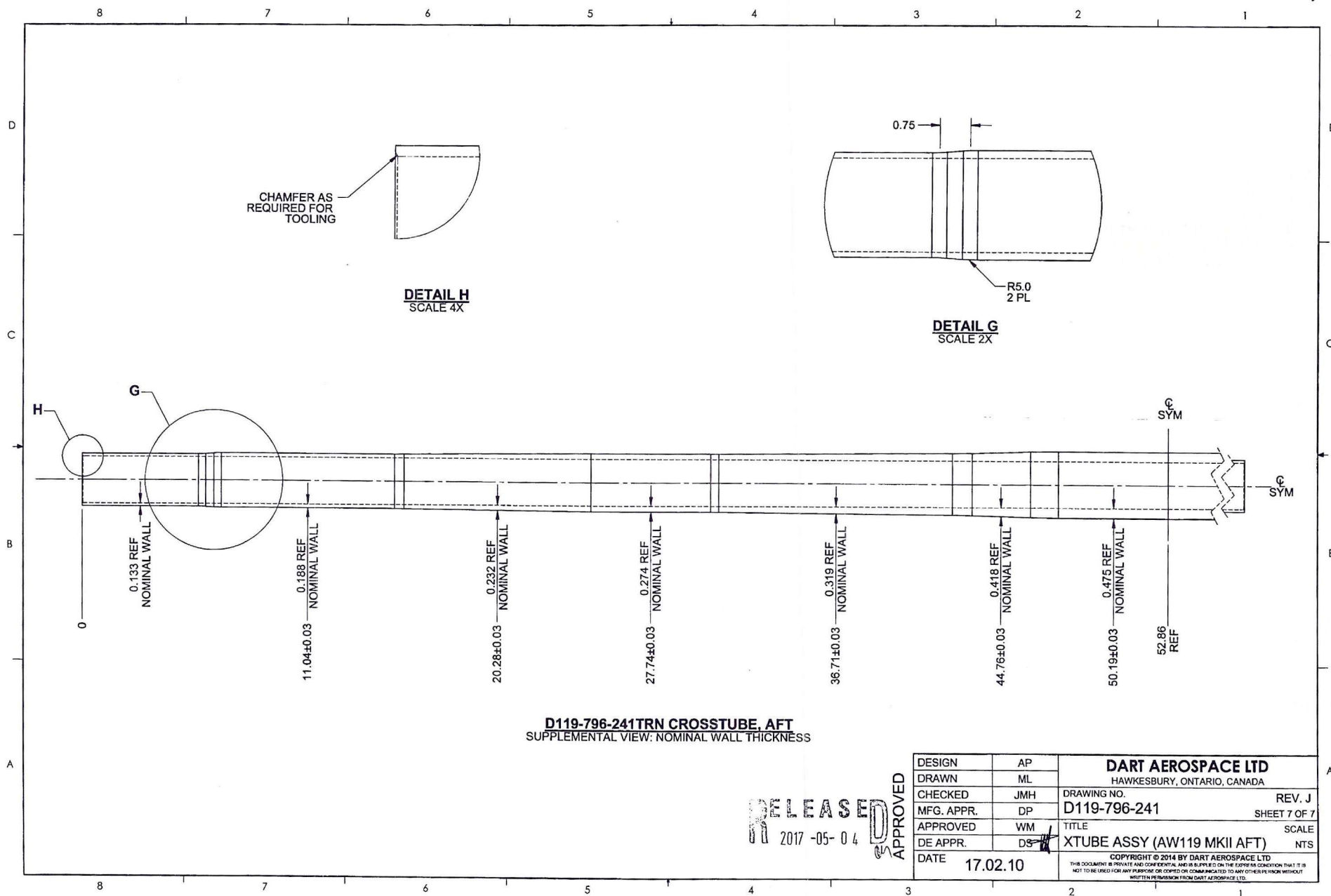


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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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OTHER : ☐					



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040713

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO040713
PO Date: 8/9/18
Due Date: 8/13/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	180150	D119-796-241	Aft Crosstube Installation Without Step (No Hardware) : TC STC SH14-45-Issue 1, FAA STC SR03504NY 15/01/28, EASA STC 10052022 Revision 1 15/02/13, DGCA INDIA LoA 07-09/2011-AED (Part) 15/07/16, BRAZIL STC 2015S07-16 15/07/30, CAAP PHILIPPINES LoA 16/05/11, CHINA VSTC0757 16/07/22, RUSSIA STC CT316-A119 16/08/11, DGAC INDONESIA STC SR025 18/02/19 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***	Firmed	-	8/13/18	1 pcs	0 pcs	1 pcs	\$108.1818/pcs	\$108.18
	180154		1 X AUG 14 2018	Firmed	-	8/13/18	1 pcs	0 pcs	1 pcs	\$108.1818/pcs	\$108.18
	180597		1 X AUG 14 2018	Firmed	-	8/13/18	1 pcs	0 pcs	1 pcs	\$108.1818/pcs	\$108.18
	180598		1 X AUG 14 2018	Firmed	-	8/13/18	1 pcs	0 pcs	1 pcs	\$108.1818/pcs	\$108.18
Sub Total:							4	0	4		\$432.73

2	180616	D4464-041	Fuel Tank Assembly : Various STC's ISSUE P/O : LIQUID PENETRANT INSPECTION AS PER QSI 038 OR LPI AS PER ASTM 1417 LEVEL 2	Firmed	-	8/13/18	1 pcs	0 pcs	1 pcs	\$108.1818/pcs	\$108.18
	180543	D4880-1	Strut : Various STC's	Firmed	-	8/13/18	6 pcs	0 pcs	6 pcs	\$108.1818/pcs	\$649.09
Grand Total:											\$1,190.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040713

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/14/18 11:24 AM dart.baker.diane



skyservice Work Order Traveler

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37008	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO040713
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:

CARRY OUT NDT ON:

1 FUEL TANK ASSY, P/N# D4464-041 , J/S# 180616

6 STRUT, P/N# D4880-1 , J/S# 180543

4 AFT CROSSTUBES, P/N# D119-796-241 , J/S# 180150, 180154, 180597, 180598

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						AUG 10 2018	 
CRACK FOUND ON 1 STRUT							
3 LEAKS FOUND ON FUEL TANK ASSY							
CRACK INDICATION FOUND ON 1 CROSSTUBE J/S# 180154							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	Name: RAFIK MELIKIAN	ACA/SCA Stamp	Date:
			AUG 10 2018



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO040752
PO Date: 8/15/18
Due Date: 8/20/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Baker, Diane
Phone: dbaker@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments: Rework for D119-796-241 -job# 180154 is
included in price

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	174644	D350-748-101	FWD Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174638		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174632		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174619		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	181018		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
2	174675	D350-748-201	Aft Crosstube AS350 / AS355 : TC STC SH06-27 Issue 2, FAA STC SR02359NY 11/03/04, EASA STC EASA.10016903 Revision 2 10/09/03, BRAZIL 2009S04-04 09/04/06 ISSUE P/O TO SKYSERVICE:	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174649		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174672		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174648		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
	174646		1 X AUG 2 1 2018	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
Sub Total:							5	0	5		\$613.64
3	180759	D212-664-101	Fwd Crosstube - High : TC STC SH01-9 Issue 3, FAA STC SR01298NY 09/01/08, EASA STC EASA.IM.R.S.01304 07/03/06, DGAC MEXICO STC IA-316/2015 15/06/17 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Liquid Penetrant Inspection as per QSI 038	Firmed	-	8/20/18	1 pcs	0 pcs	1 pcs	\$122.7272/pcs	\$122.73
			1 X AUG 2 1 2018								



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO040752

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
			LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
4	180560	D4885-1	End Fitting : Various STC's Issue P/O: _____ LPI Per ASTM 1417 LEVEL 2 Certificate of conformaty is required	Firmed	-	8/20/18	8 pcs	0 pcs	8 pcs	\$22.25/pcs	\$178.00
Grand Total:											\$1,528.00

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 8/20/18 1:26 PM dart.baker.diane

**skyservice****Work Order Traveler**
Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37085	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO040752
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

5 FWD CRUSSTUBES , P/N# D350-748-101 , J/S# 174644 , 174638 , 174632 , 174619 , 181018

5 AFT CRUSSTUBES , P/N# D350-748-201 , J/S# 174675 , 174649 , 174646 , 174672 , 174648

1 AFT CROSSTUBE , P/N# D119-796-241 , J/S# 180154 (REWORKED AREA)

1 FWD CROSSTUBE , P/N# D212-664-101 , J/S# 180759

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16						AUG 16 2018	 DOT-APP 20 53-89
CRACK FOUND ON AFT CROSSTUBE J/S# 174648							
REMAINING ITEMS: NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
Description	Location	P/N	Qty	Batch	S/N Off	S/N On	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp 	Date:
Name: RAFIK MELIKIAN		AUG 16 2018